Lock Operations Management Application (LOMA)

US River Information Services Workshop

08-09 December 2009

Outline

- The need for LOMA
- Automatic Identification System (AIS)
- LOMA capabilities
  - General capabilities
  - Users/stakeholders
- LOMA schedule
- Q&A and discussion

Need for LOMA

- Lock operators, navigation managers and industry need to have operational and management information presented in a variety of views.
- Existing systems (such as LPMS) capture and provide information that could be made more valuable in combination with other data.
- New technology allows for automation of some manual activity
- Access to new technology and information/capabilities are not now available

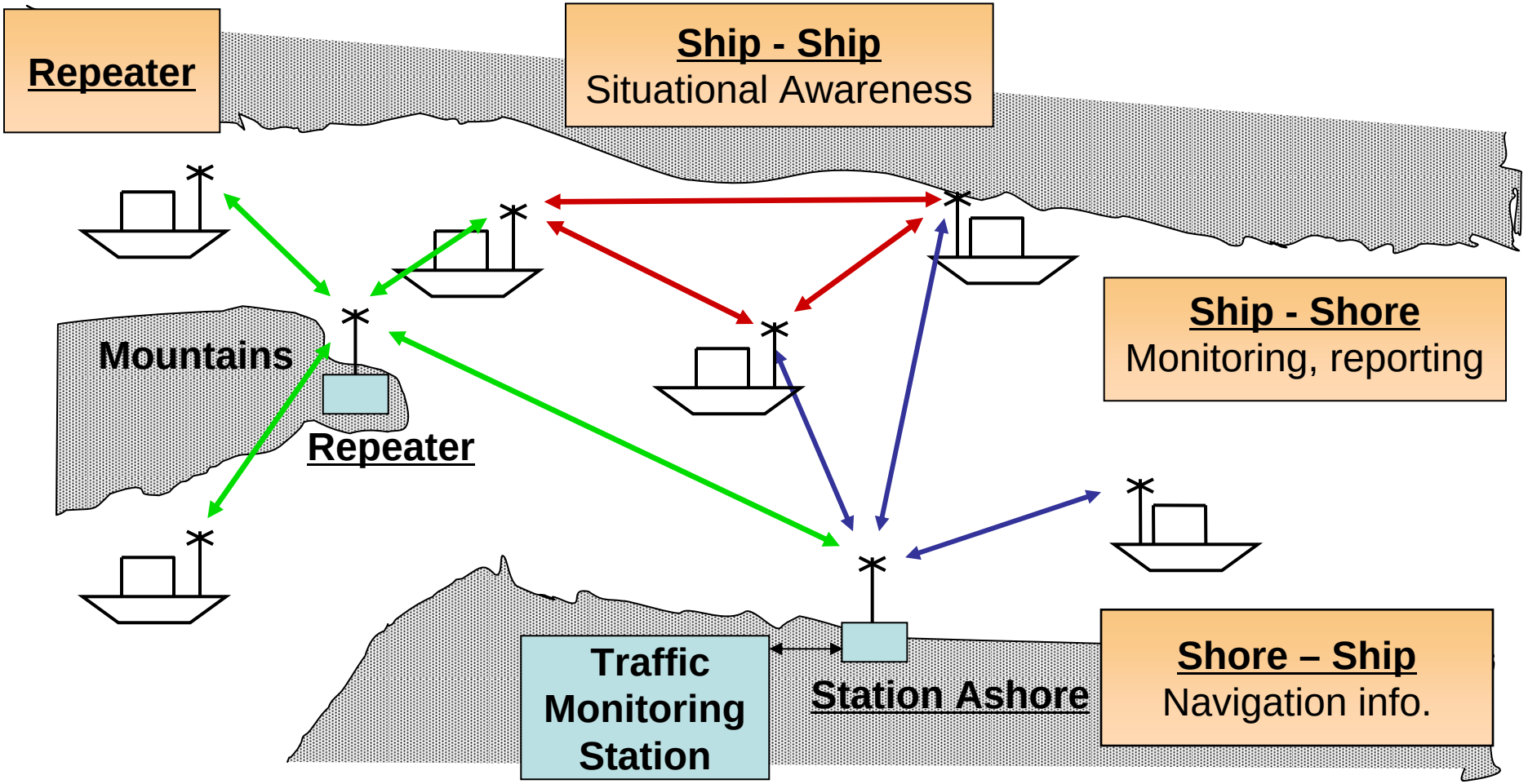
LOMA goals and benefits

- Goals:
  - Increase situational awareness at lock, leading to increased safety and efficiency, increased reliability, fewer delays, more predictable lockage times.
- Benefits:
  - Maximize reliability by minimizing unexpected delays
  - By knowing expected traffic, lock masters and operations managers will be able to more effectively use their staff
  - Lower costs, congestion, pollution
  - Increased data accuracy; reduced manual data entry
  - Display information to a Common Operational Picture and share with other agencies
  - Ease data reporting requirements on industry
  - Expand use of electronic charts

Automatic Identification System (AIS)

- Receive capability
  - “dots on a screen”
- Transmit Capability
  - Safety-related information to vessels
  - Telecommands
- Repeaters
  - Extend coverage

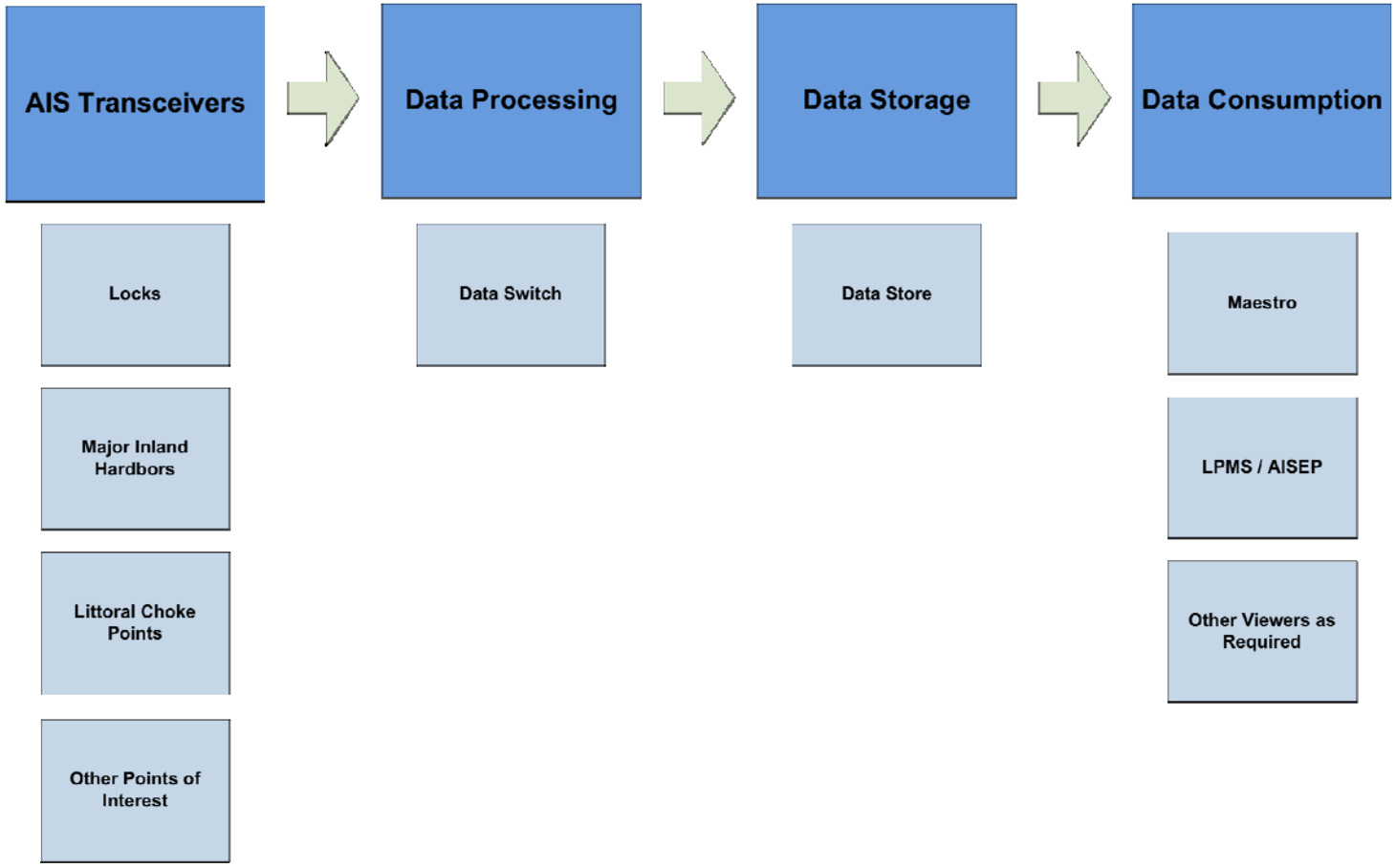
AIS System Overview



LOMA capabilities

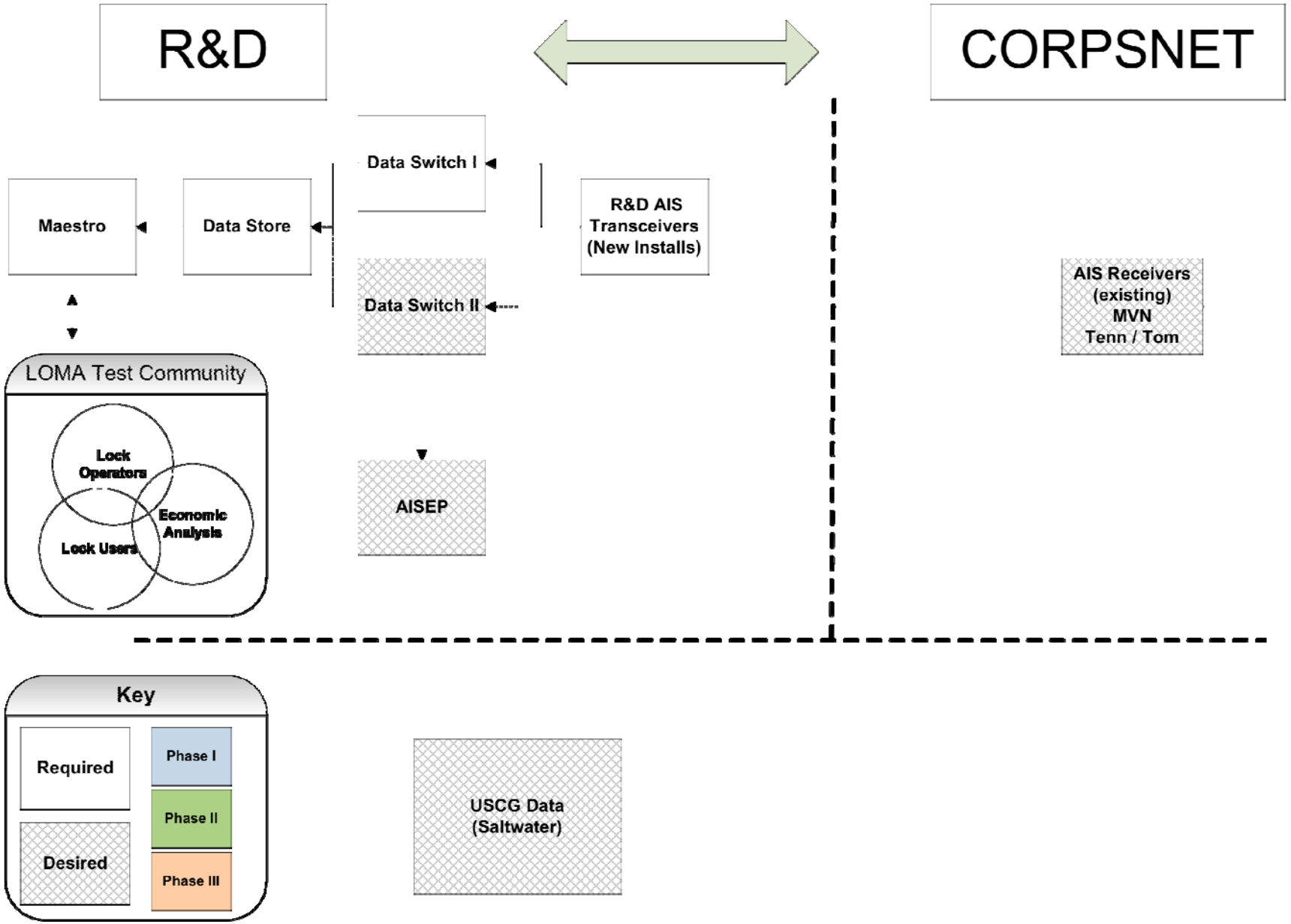
- Access to AIS signal
  - AIS receiver sites
  - Access to USCG (and other) AIS data
- Display of vessel AIS location in vicinity of lock
- Queuing support application
- Automation of LPMS timing events
- Access to archive/historical vessel data
  - For lock/waterway management
- Ability to transmit data to vessels via AIS
  - Real-time current velocity, weather, lock queue, etc.
- Dissemination of information externally
  - Other Gov’t agencies
  - Industry

Basic Concept of Operations



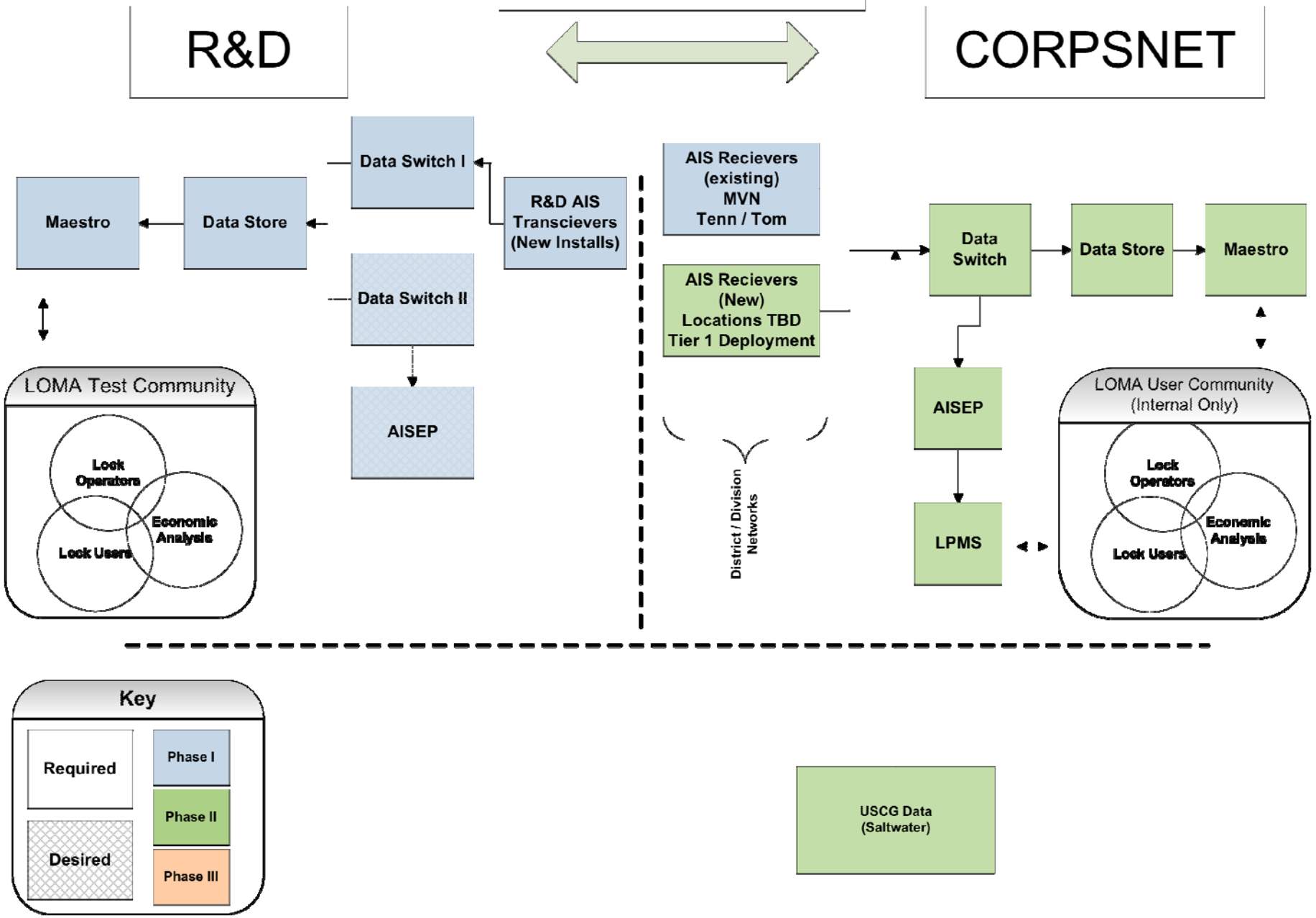
Phase I

Oct 2009 – 31 Mar 2010



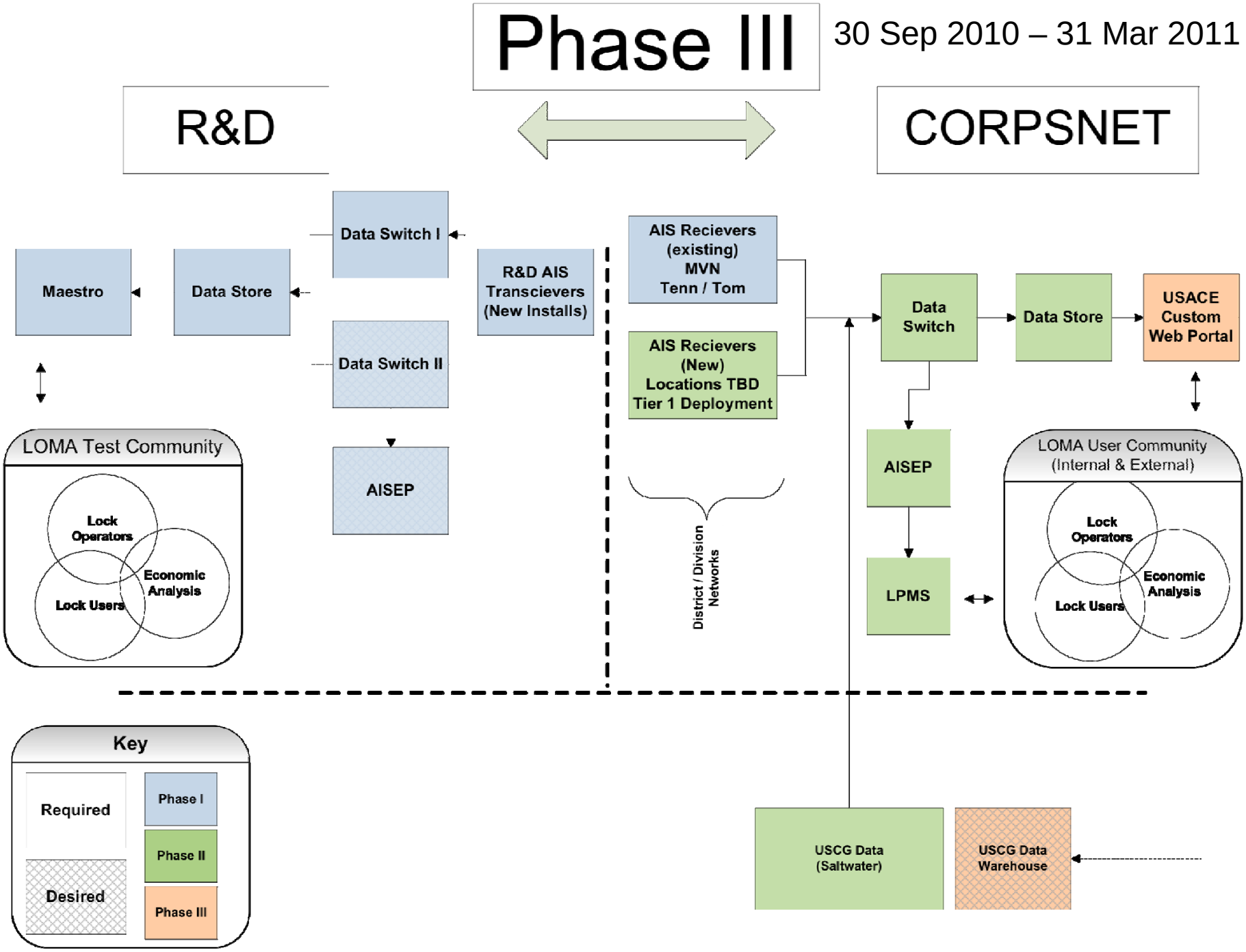
Phase II

31 Mar – 30 Sep 2010



Phase III

30 Sep 2010 – 31 Mar 2011



LOMA Timeline

- **Phase I: Pilot project (Nov 2009-March 2010)**
  - Software installed on R&D Server
  - Determine detailed requirements and capabilities
  - Access to USCG data
  - Define what “LOMA 1.0” will be for CE-CI/ACE-IT approvals for production
- **Phase II: Initial Op. Capability (IOC) (Mar 2010-Sep 2010)**
  - Transfer system from R&D to production
  - Install at least 5 new AIS receivers/transceivers
  - Begin providing LOMA 1.0 capabilities to users (lock operators, mariners, industry)
  - Continue development of LOMA 2.0 capabilities
- **Phase III: Full Operating Capability (FOC)**
  - Get LOMA 2.0 into Production
  - Install AIS coverage defined in Phase I
  - Provide capabilities to expanded set of end users

Questions?

- Specific needs
- Capabilities
- Priorities